

A Frontline Special Section

Hurricane Safety

August – November 2006

*A preparedness guide
for Fort Stewart and Hunter Army Airfield*

Hurricane Katrina - 2005

Hurricane Safety

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Right: The First Baptist Church of Gulfport, MS sustained heavy damage from a 25 foot tidal surge and hurricane force winds.

Below: The Grand Casino, Gulfport, MS broke into multiple pieces and was relocated by Hurricane Katrina.



Photos courtesy of Raymond Brooks
Gulfport Police Department, Gulfport, Miss.

*A preparedness guide
for Fort Stewart and Hunter Army Airfield*



DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT STEWART
954 WILLIAM H. WILSON AVE. BLDG 623
FORT STEWART GEORGIA 31314

REPLY TO
ATTENTION OF

IMSE-STW-ZA

27 July 2006

MEMORANDUM FOR All Fort Stewart and Hunter Army Airfield military and civilian personnel

SUBJECT: Personal Hurricane Survival

1. The threat of a hurricane to this area is real and warrants utmost attention for preparation and action. It is important that we all know what to expect during one of these storms, and what to do to reduce the risk to our families and ourselves.
2. I strongly encourage you to take appropriate preventive measures, and urge you to read this handbook that identifies changes and adapt your actions and checklists to your personal needs. Keep in mind that hurricanes are destructive storms. Your safety could depend on your actions and preparations.

A handwritten signature in black ink, reading "Todd A. Buchs".

TODD A. BUCHS
COL,AR
Garrison Commander

Introduction

Hurricanes can cause widespread damage without ever making land-fall. Tropical systems from the Atlantic Ocean and Gulf of Mexico have caused major flooding and inland winds as far north as the mountain regions in Georgia. In addition, rapid population growth along the hurricane-prone coastline increases the risk of loss of life and extreme property damage. Everyone takes personal responsibility for taking appropriate preventive measures and prepare himself or herself in the event of a hurricane.

Command Hurricane Policy

- The Installation Commander will make all decisions requiring evacuation of Fort Stewart and Hunter Army Airfield (HAAF). Local county Emergency Management Agencies will decide on evacuation within their jurisdictions.
 - Fort Stewart will provide shelter facilities for Soldiers and families ordered to evacuate from Hunter Army Airfield up to a Category 1 storm.
 - Fort Stewart decisions will follow the principal of "run from the water, hide from the wind."
 - Greatest Threat is Wind Damage and Storm Surge.
- MARNE TV is the official source of news, information, and updates. The intranet will also be used.
- Soldiers may have duties that prevent their evacuation with their families.
 - If local evacuations are directed the Installation Commander will make the decision to conduct the evacuation of Fort Stewart and Hunter Army Airfield.
 - On and off post families must be prepared to evacuate to Georgia Emergency Shelters with or without their sponsors.
 - Preparation is critical to success. Ensure you have an evacuation plan.
 - Pet owners must make proper arrangements for their pets during evacuations this includes having enough water and food for each pet. The use of pet carriers is recommended.

Evacuation Policy

Fort Stewart

- The Central Inprocessing Center for evacuees is Mower Processing Center, building number 208. This serves as the Central Inprocessing Center for all Fort Stewart Shelters, however each shelter will have an inprocessing center. The designated parking for Mower Processing Center is the Mower Processing Center parking lot.
- Privately owned vehicles (POV) will be used to evacuate when possible.
- Based upon projected hurricane track and intensity, the Installation Commander may decide that soldiers residing in barracks will remain there and will encourage families in Army Family Housing to also remain there.
- During intense hurricanes, the Installation Commander may decide that soldiers residing in barracks will evacuate to other locations specified by their respective chains of command. Soldiers and their families residing in Army Family Housing will evacuate via POV to Georgia Emergency Shelters.
- Soldiers and family members residing off-post will follow the orders and directives of their respective Civilian Emergency Management Agency (EMA) and evacuate to Georgia Emergency Shelters.

Hunter Army Airfield

- There will be no shelters opened on Hunter Army Airfield (HAAF).
- Based upon projected hurricane track and intensity, the Installation Commander may decide that soldiers residing in barracks will remain there and will encourage families in Army Family Housing to also remain there.
- During intense hurricanes, the Installation Commander may decide that soldiers residing in barracks will evacuate to other locations specified by their respective chains of command. Soldiers and their families residing in Army Family Housing will evacuate via POV to Georgia Emergency Shelters.
- Soldiers and family members residing off-post will follow the orders and directives of their respective Civilian Emergency Management Agency (EMA) and evacuate to Georgia Emergency Shelters.

Fort Stewart Central Inprocessing Center

Mower Processing Center, building number 208, is the Central Inprocessing Center for all Fort Stewart Shelters. Designated Parking is in the Mower Processing Center parking lot.

Fort Stewart Shelters

<u>PRIORITY</u>	<u>BLDG #</u>	<u>BLDG NAME</u>
1	208	Mower Processing Ctr
2	708	Caro Gym
3	608	Jordan Gym
4	5602	Diamond Elem.
5	402	MARNE Lanes
6	100	Education Center
7	610	MARNE Chapel
8	2125	Victory Chapel
9	439	Newman Gym

FACILITY/BUILDING

Education Center, Building 100	767-8331
Jordan Gymnasium, Building 608	767-5079
Caro Gymnasium, Building 708	767-4763
Mower Processing Center, Building 208	767-8894
Newman Gymnasium, Building 439.....	767-3031
Diamond Elementary School, Building 5602	876-6094
MARNE Bowling Center, Building 402,	767-4866
MARNE Chapel, Building 610	767-8801
Victory Chapel, Building 2125	767-7028

Evacuation Routes

- Soldiers and family members residing off-post will follow the orders and directives of their respective Civilian Emergency Management Agency (EMA). Once the evacuation begins it is imperative for all personnel to pay particular attention the hurricane evacuation route signing.
- Additionally, the Georgia Emergency Management Agency (GEMA) in conjunction with the Georgia Department of Transportation (DOT) will have portable electronic message boards along the routes containing updated directions and information. Some Coastal Georgia Evacuation Routes are:

Chatham County:

Highway 21

US 80

I-16

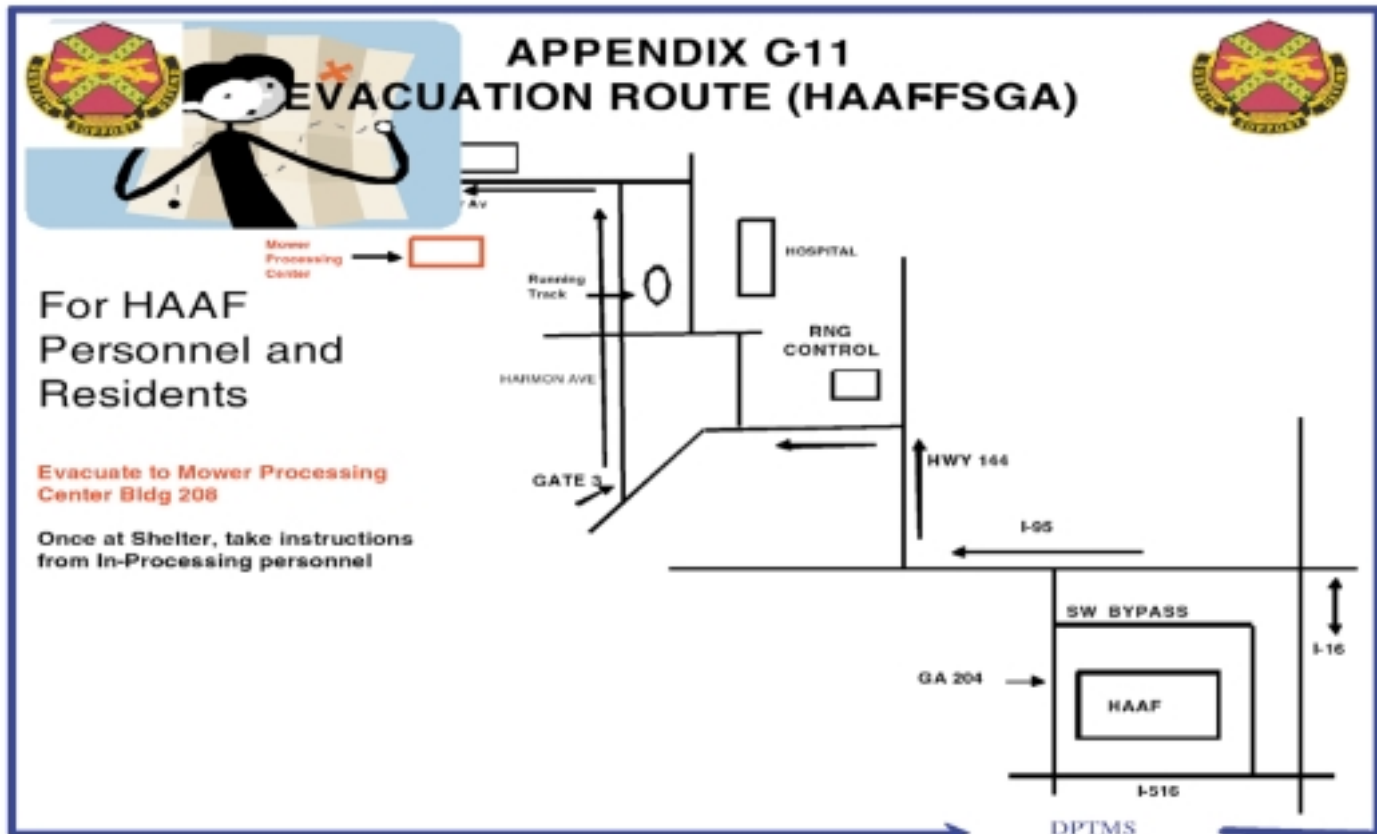
Highway 204 to US 280

Bryan County:

Highway 144 to US 301 (Statesboro)

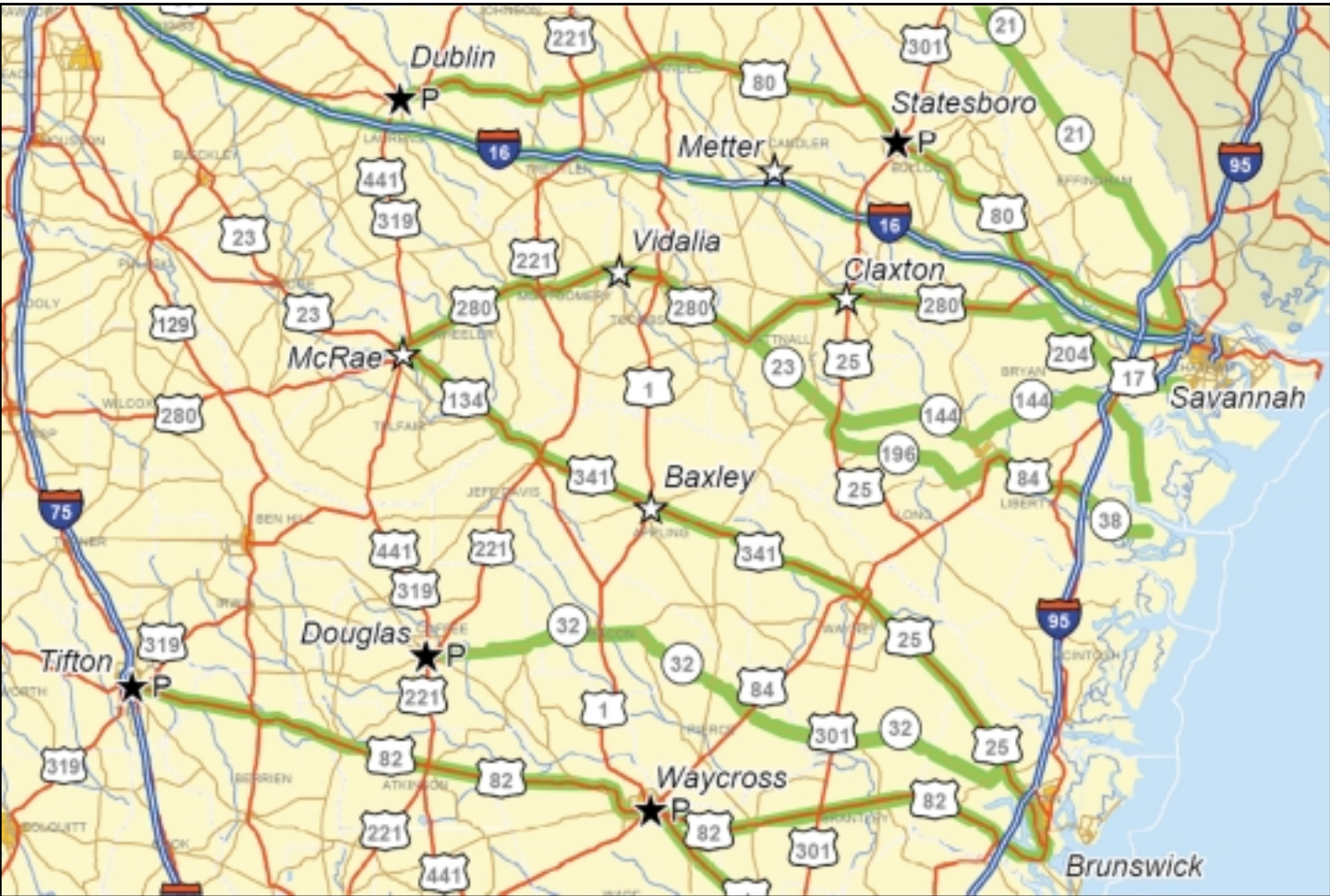
Liberty County:

Highway 84 to Highway 196 to Highway 301 (Statesboro)



*Georgia Emergency
Management Agency*

Hurricane Evacuation Routes



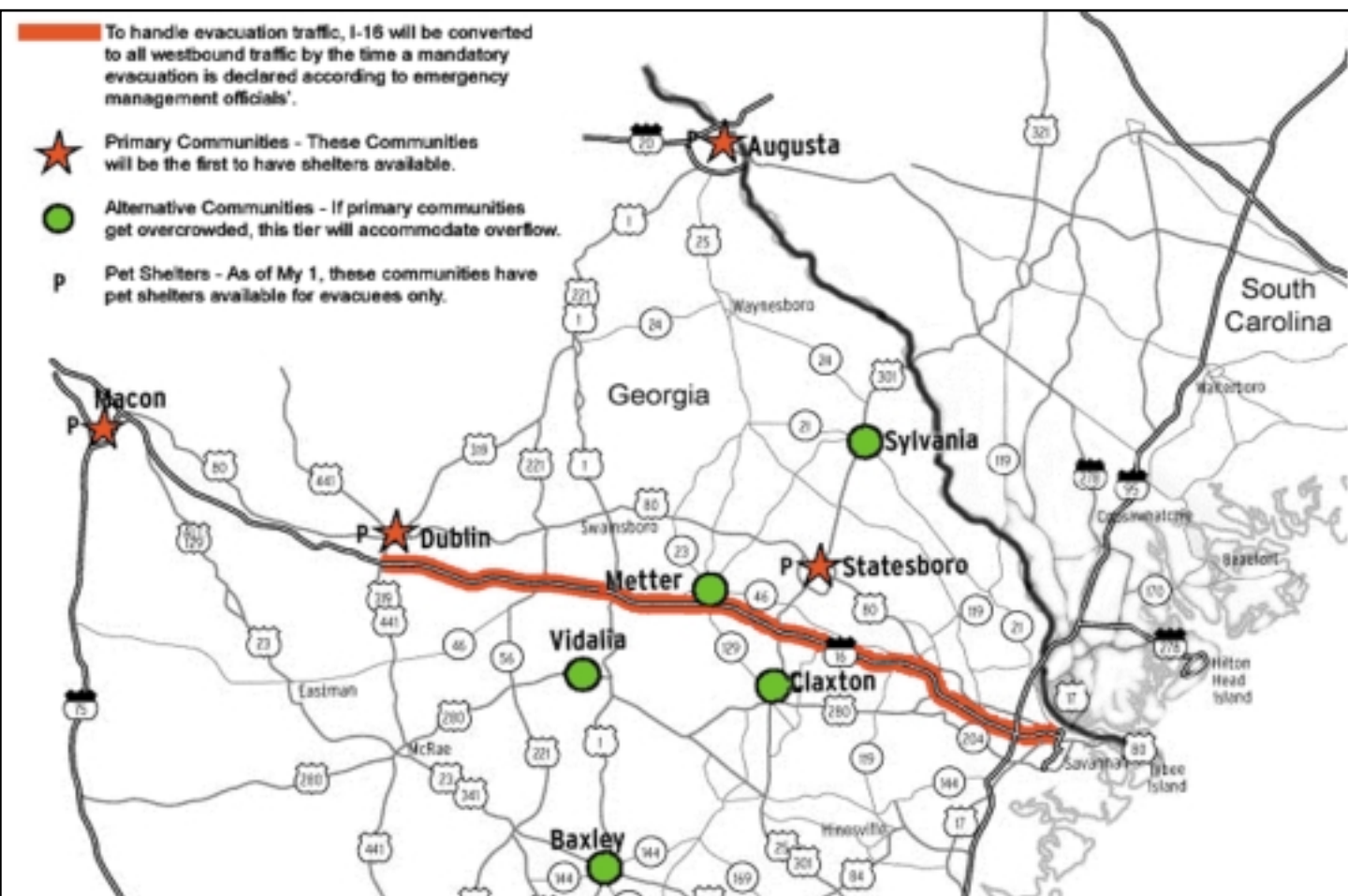
Establish a “family contact”

In case family members are separated from one another during a disaster (a real possibility during the day when adults are at work and children are at school), have a plan for getting back together. Ask an out-of-state relative or friend to serve as the “family contact.”

After a disaster, it's often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person.

Civilian Shelter Locations

If soldiers and/or their families are required to evacuate their off-post residences, they should go to one of the primary or alternate inland shelters identified on the following map. Register every person arriving with you at the shelter and check-in with the Military Liaison Officer. Do not take alcoholic beverages or weapons of any kind into the shelters.



For a complete listing of Georgia Shelters go to:
<http://rome.gema.state.ga.us/webgema/Shelters.nsf/ByShelterStatus?OpenForm>. This website lists all shelters, their capabilities, locations, and Points of Contact to include address and phone number.

Where to get information

Peach State Radio Frequencies:

The Peach State radio is Georgia's Public Radio Station, which collaborates with Georgia Emergency Management Agency (GEMA), and other agencies to provide "real time" information people need during a hurricane. Tune to these FM radio frequencies in the following areas for severe weather information.

Albany – 91.7
Athens – 91.7/97.9
Augusta – 90.7
Brunswick – 89.1
Carrollton – 90.7
Columbus – 88.1
Demorest – 88.3

Dahlonega – 89.5
Fort Gaines – 90.9
Macon – 89.7
Savannah – 91.1
Tifton – 91.1
Valdosta – 91.7
Waycross – 90.1

Hurricane-related websites

The following partial listing of weather and hurricane related websites is provided for your information and access:

The Weather Channel – www.weather.com
National Weather Service – www.nws.noaa.gov
National Weather Service, Southern Region – www.srh.noaa.gov
National Hurricane Center – www.nhc.noaa.gov

Severe weather notification service through email / cell phone –
www.emergencyemailnetwork.com

Federal Emergency Management Agency – www.fema.gov
Georgia Office of Homeland Security – www.gema.state.ga.us
Chatham County EMA – cema.chathamcounty.org/index.asp
Liberty County EMA – mylocalgov.com/LibertyCountyGA/WebDept.asp?key=15
Red Cross Homepage – www.redcross.org

Have a prepared hurricane evacuation kit and take it with you when you evacuate. Hurricane evacuation kits should contain the following items:

Fill your vehicle fuel tanks.
Water 1 gallon per person per day. Have a 3-day supply.
Nonperishable food items, canned meats, fruits and vegetables, snacks, etc.
prescription drugs and other medication.
Baby food or other unique dietary food items.
Blankets, pillows, and bedding items.
Pet carriers are recommended. Pet food and water. Call in advance to see if shelter will accept pets.
Cooler ice-chest.
Can opener.
Pots and pans to prepare foods.
Camp stoves, portable grill.
Paper/plastic plates and utensils.
Extra clothing items.
Diapers, baby supplies, and small trash bags to dispose of baby waste.
Personal hygiene items.
Flashlight and extra batteries.
Portable radio and extra batteries.
Important personal paper, including insurance policy information, and important numbers.
Toys, books, children's games.
Personal identification for each person, money, credit cards, etc.

Do not take the following items to shelter facility:

Alcoholic beverages of any kind.
Perishable food items.
Weapons.

Home preparation for hurricane force winds, accomplish the following:

Ensure that supplies listed above are on hand.
Secure furnace rooms, storerooms, garage doors, etc. Covering with plywood is recommended.
Cover windows with plywood, or at a minimum, use masking tape to help guard against breakage.
Store loose object inside, i.e., boxes, BBQ grills, garbage cans, toys, etc.
Secure objects outside of building, i.e., boats, playground equipment, clothesline, etc.
Fill vehicle fuel tanks.
Fill water containers, to include bathtubs, as the water supply may become inoperable or contaminated.
Maintain on hand at least a 3 day supply of nonperishable food and potable water. Additional items that may be desirable for the aftermath of the storm include camping supplies (tents, cots, sleeping bags, camp stoves, lanterns, fuel, etc.).
If you have a power generator, do not connect it to your house power panel to do so may send power outside your house along downed power lines and may injure or kill workers at some distance from your house. If you intend to use a back-up generator, plug the items you intend to use directly into the generator.

During HURCON 1 complete all preparations indicated above.

Additionally, accomplish the following:

Extinguish all appliances with pilot lights, i.e., stoves, furnaces, ranges, etc., for the durations of the hurricane. Turn off gas at the meter.

All personnel limit activity to confines of shelter or dwelling. Keep away from glass windows and doors and remain indoors until the official “All Clear” is announced.

If major damage occurs, personnel should lie along an inside wall on the side away from the wind and cover themselves with a mattress, dining room table, desk, or some other similar object.

Only emergency phone calls should be made.

Stay fully dressed with raincoats readily available.

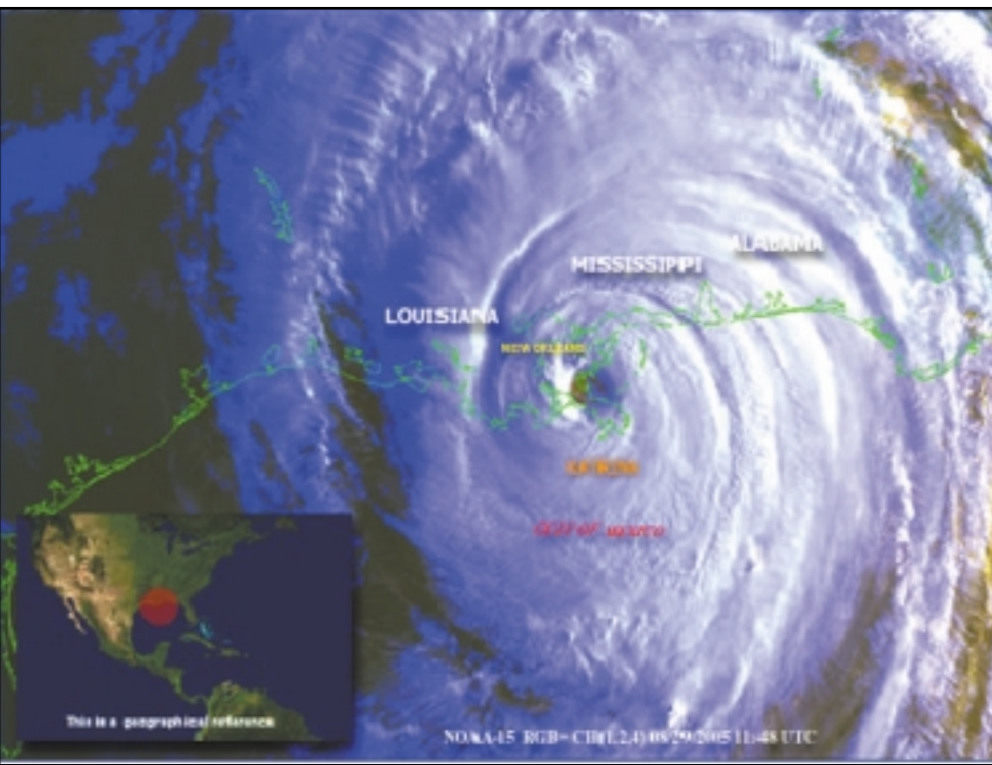
Following the hurricane, remain in a safe place until the “All Clear” announcement. Do not assume an “All Clear” because there is a lull in the storm. This lull will occur when the eye or center of the hurricane passes directly overhead and the wind will return suddenly from the opposite direction and possibly with even greater violence. Following an “All Clear” announcement:

Listen for loudspeaker/radio announcements and instructions from local authorities.

Do not drive unless absolutely necessary. If you must drive, watch out for debris, washouts, and swollen streams. Do not drive through standing water.

Stay away from broke or low hanging power lines as well as metal objects that may be in contact with damaged power lines. Notify military police or other authorities of dangling or broken wires. Do not hinder first aid or rescue work. Stay away from disaster areas.

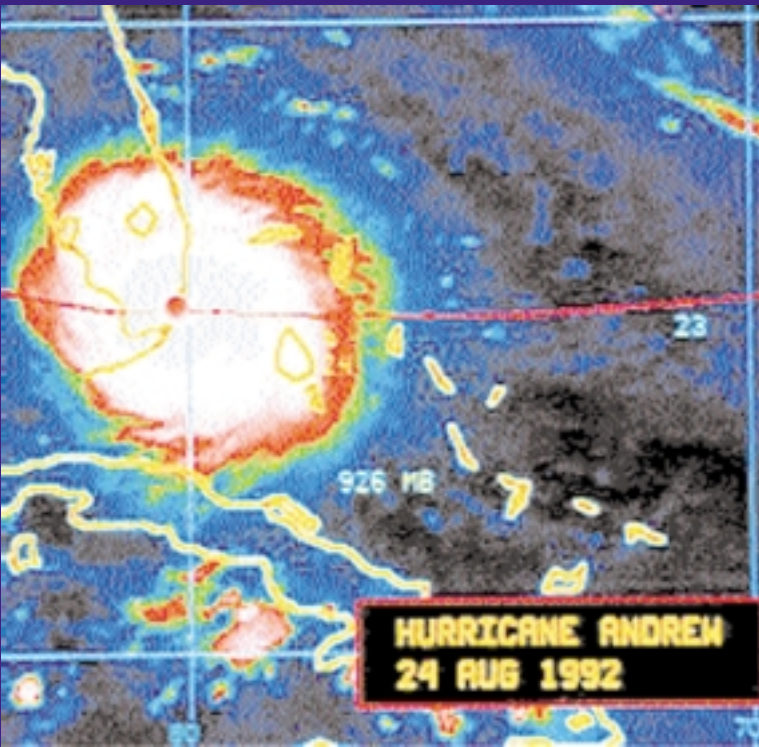
Be alert exercise proper caution for snakes, animals, and insects which may travel inland to escape the approaching flood waters caused by hurricane.



This is a map of Hurricane Katrina the sixth-strongest Atlantic hurricane ever recorded. The sheer size caused devastation over 100 miles from its center. Katrina is estimated to be responsible for \$75 billion dollars in damage and has left 100,000's of people with destroyed homes. This storm killed 1,604 people, making it the deadliest U.S. hurricane since 1928. Katrina victims are still trying to recover today a year later from this devastating disaster.

Hurricanes

There are no other storms like hurricanes on Earth. Views of hurricanes from satellites located thousands of miles above the planet show how unique these powerful, tightly coiled weather systems are.



What is a hurricane?

A hurricane is a type of tropical cyclone, the general term for all circulating weather systems (counterclockwise in the Northern Hemisphere) over tropical waters. Tropical cyclones are classified as follows:

- **Tropical Depression:** An organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph (33 knots) or less.
- **Tropical Storm:** An organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 to 73 mph (34-63 knots).
- **Hurricane:** An intense tropical weather system with a well-defined circulation and maximum sustained winds of 74 mph (64 knots) or higher. In the western Pacific, hurricanes are called "typhoons" and similar storms in the Indian Ocean are called "cyclones."

Hurricanes are products of the tropical ocean and atmosphere. Powered by heat from the sea, they are steered by the easterly trade winds and the temperate westerly winds as well as by their own ferocious energy. Around their core, winds grow with great velocity, generating violent seas. Moving ashore, they sweep the ocean inward while spawning tornadoes and producing torrential rains and floods. The hurricane season begins June 1 and runs through November 30. This season's prediction includes at least 115 tropical storms, seven or more of which becomes hurricanes, and three or more become major or intense hurricanes of Category 3 or higher on the Saffir-Simpson Hurricane Scale. Most of the above-average activity will occur during the peak period of the season from August to October. The overall activity including storm duration, intensity, and the number of storm days is very high.

Saffir-Simpson Hurricane Scale

CATEGORY	PRESSURE	WINDS	STORM SURGE	EXAMPLE
1	>980	74-95 mph	4-5 ft	IVAN (98)
2	965-979	96-110 mph	6-8 ft	EARL (98)
3	945-964	111-130 mph	9-12 ft	BONNIE (98)
4	920-944	131-155 mph	13-18 ft	GEORGE (98)
5	<920	>155 mph	18+ ft	KATRINA (05)



HURRICANE CONDITION (HURCON) DoD Definitions



Hurricane Conditions (HURCONs): Based on forecasted arrival of hurricane force winds.

- **HURCON 5:** A tropical depression that has the **potential** to develop into a more serious storm has been identified in the Atlantic, the Caribbean or the Gulf of Mexico and may pose a threat to the southeastern United States.
- **HURCON 4:** A hurricane is a **possible** threat and it is predicted that it will be **72 hrs** before the forecasted arrival of 50-knot winds.
- **HURCON 3:** A hurricane is a **probable** threat and it is predicted that it will be **48 hrs** before the forecasted arrival of 50-knot winds.
- **HURCON 2.5:** Decision to **evacuate HAAF to FS**, or inland/decision regarding soldiers and families in evacuated areas, 36 hours out before the forecasted arrival of 50-knot winds.
- **HURCON 2:** A hurricane is a **definite** threat and it is predicted that it will be **24 hrs** before the forecasted arrival of 50-knot winds.
- **HURCON 1:** A hurricane is an **imminent** threat and it is predicted that it will be **12 hrs** before the forecasted arrival of 50-knot winds.

DPTMS

Next 2006 Hurricane Names

Chris

Joyce

Rafael

Debby

Kirk

Sandy

Ernesto

Leslie

Tony

Florence

Michael

Valerie

Gordon

Nadine

William

Helene

Oscar

Isaac

Patty

Severe Weather Conditions

1. Severe Weather:

- a. **Severe Thunderstorms** – thunderstorms with high winds, hail and cloud to ground lightning, can form spring through early fall.
- b. **Tornadoes** – violent rotating column of wind speeds that can reach wind speeds over 200 mph, form in thunderstorms generally spring and fall. Tornadoes can occur at anytime throughout the year.
- c. **Flooding** – heavy rainfall can cause localized flooding in low lying areas, can occur during any season if heavy rainfall occurs.
- d. **Extreme Heat** – temperatures above 95oF for extended periods (can be several days) can occur during the summer months in Georgia.

2. Safety Measures:

- a. Stay alert to potential for rapidly changing weather conditions via local television, local radio or NOAA weather radio.
- b. Tornado warning sirens on the installation sound when a tornado is visually spotted and reported by a reliable source to the Installation Operation Center (IOC) or the Air Force Weather agencies or local TV/radio weather reports issue a tornado warning for the Fort Stewart/HAAF. The IOC will sound the warning siren based on the Garrison Commanders decision to sound the warning siren. These warnings may come only minutes before a tornado actually strikes. The warning is a steady fifteen second tone followed by a voice message "Tornado Warning" and a civil siren for one minute, this is repeated twice. The "All Clear" signal is a fifteen second tone followed by the "All Clear" message, this is repeated three times.
- c. Soldiers, family members and civilians may be anywhere when a tornado warning comes. Therefore, each individual Soldier, family member and civilian must prepare and rehearse the best method of protection based on their location.
- d. Do not drive through low-lying areas or around barricades. You are liable if you ignore safety barricades and endanger yourself and others by driving through flooded roadways.
- e. Stay hydrated and cool to prevent heat injuries during the summer months.
- f. Stay away from windows and move inside if thunderstorms are in the area to prevent being struck by lightning.
- g. Provide pets with shelter during any severe weather – they are just as vulnerable to the effects as we are.

3. KNOW WHERE and WHEN to SHELTER:

a. Tornado – interior room or central shelter, take shelter immediately if a tornado warning is issued (tornado has been spotted in the local area), DUCK – downstairs, under cover, center of house, keep away from windows

(1) In a building: Go to an interior room (hall, closet or bath) on the lowest floor, ideally a basement. Stay away from windows and outside walls. Take shelter under heavy furniture or in a bathtub. Cover yourself with padding, mattress, pillows and blankets. Protect your head, face and eyes from flying or falling debris.

(2) Outdoors: Lie down in a depression, ditch or culvert. Cover your head with your arms.

(3) In a vehicle or mobile home: In a vehicle or mobile home is probably the worst place to be located during a tornado. Vehicles are easily tossed about by tornadoes, and fatalities often result to occupants. Instead, leave the vehicle or mobile home. Seek shelter in a depression or in the nearest sturdy building.

(4) In buildings with a large, free span roof: When in such a building as the Post Exchange, Commissary, or a gymnasiums go to the nearest sturdy building or if time does not permit, seek shelter in interior rooms.

b. Thunderstorm – inside home or business, away from windows, seek shelter if warning is issued for local area

c. Flooding – high ground, move toward high ground if flash flood warnings are issued for the local area

d. Extreme Heat – inside air conditioned home or business during heat of the day, refrain from outdoor activities between 10 am and 6 pm during summer months.

Tornado Levels

F-Scale Number	Intensity Phrase	Wind Speed (mph)	Type of Damage Done
F0	Gale Tornado	40 – 72	Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages sign boards.
F1	Moderate Tornado	73 – 112	The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations overturned; moving autos pushed off the roads; attached garages may be destroyed.
F2	Significant Tornado	113 – 157	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.
F3	Severe Tornado	158 – 206	Roof and some walls torn off well constructed homes; trains overturned; most trees in forest uprooted.
F4	Devastating Tornado	207 – 260	Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.
F5	Incredible Tornado	261 – 318	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles fly through the air in excess of 100 meters; trees debarked; steel reinforced concrete structures badly damaged.
F6	Inconceivable Tornado	319 - 379	These winds are very unlikely. The small area of damage they might produce would probably not be recognizable along with the mess produced by F4 and F5 wind that would surround the F6 winds. Missiles, such as cars and refrigerators would do serious secondary damage that could not be directly identified as F6 damage. If this level is ever achieved, evidence for it might only be found in some manner of ground swirl pattern, for it may never be identifiable through engineering studies.